

REMARKS

Claims 1-52 are currently pending in this application. Claims 33-42 and 52, directed to Tat-adsorbed nanoparticles were elected by Applicants, with traverse, following a Restriction Requirement and claims 43-48, directed to a process of producing Tat-adsorbed nanoparticles were noted by the Examiner to be subject to rejoinder upon allowance of the product claims.

Claim 33 has been amended to further define the subject matter and is supported throughout the specification, for example at page 18, lines 13-16 and also at page 5, lines 8-16. Claim 37 has been rewritten in independent form and claim 38 has been amended to clarify the language of the claim. Non-elected claim 43 has also been amended so as to be consistent with amended claim 33. New claim 53 has been added and is supported by original claim 43. The specification has been amended to include reference to the priority documents as required by the Examiner. No new matter has been introduced.

For the following reasons, Applicants respectfully that the application should be allowed and passed to issue.

Claim Rejections Under 35 U.S.C. § 102(b)

Claims 33 and 52 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Buanec et al., (2001). Applicants respectfully disagree, however, in an effort to expedite prosecution, claim 33 has been amended and now recites, “[a] Tat-adsorbed nanoparticle, for treating and preventing HIV infection, wherein the adsorption efficiency of Tat to the nanoparticles is approximately 100%.”

As discussed in the specification, Tat has been studied as a vaccine for preventing HIV, specification page 5, and the subject matter of the claims is directed to Tat-adsorbed nanoparticles, wherein the adsorption efficiency of Tat to the nanoparticles is approximately

100%. Furthermore, the surface adsorption of Tat on the nanoparticles has the advantage of avoiding damage caused to the Tat which may be caused by sonication and high-torque mechanical mixing often needed in the process of microparticle preparation. Moreover, the specification at pages 18 and 19 shows that Tat adsorbed nanoparticles as recited in the claims, result in enhanced humoral and Th-1 type immune response. As shown in Figures 8A and 8B, the antibody titers from mice immunized with Tat-adsorbed nanoparticles, were strong.

Anticipation under 35 U.S.C. § 102 requires that “each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ 2d 1051, 1053 (Fed Cir. 1987). At a minimum, the cited prior art does not disclose (expressly or inherently) “a Tat-adsorbed nanoparticle, wherein Tat is adsorbed to a substantial portion of the nanoparticle surface.”

In contrast the to the subject matter as recited in claim 33, Buanec discloses a chitosan nanoparticle loaded with Tat toxoid which is prepared by adding a solution of chitosan to TTx in PBS. (Buanec page 317). Buanec does not disclose a nanoparticle as claimed, in which the Tat is adsorbed a surface of a nanoparticle, let alone disclosing that the adsorption efficiency of Tat to the nanoparticles is approximately 100%.

As such, Buanec fails to teach all of the elements of claim 33. Therefore, claim 33 is allowable over the cited prior art reference.

Furthermore, claim 52, depends from and further defines the subject matter recited in claim 33, and therefore should also be allowed.

Claim Rejections under 35 U.S.C. § 103(a)

Claims 34-36 were rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Cui and Mumper (2002) in view of Vives et al., (1994) and Rossi et al., (1997).

Applicants respectfully submit that, the Cui and Mumper article published on May 15, 2002 and was available online on March 26, 2002. As Cui was not publicly available until after the priority date of the present application (Provisional Application filed March 1, 2002), as such, it is respectfully submitted that Cui is not available as prior art under 35 U.S.C. § 103 and therefore withdrawal of the rejection is requested.

Claims 37-42

Applicants acknowledge with thanks the Examiner's indication that claims 37-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claim 37 has been rewritten in independent form, therefore it is respectfully submitted that claim 37 is allowable. Furthermore, claims 38-42 depend from and further define the subject matter of claim 37 and therefore are also allowable.

Conclusion

Accordingly, in view of the above amendments and remarks, Applicants respectfully submit that this application should be allowed and the case passed to issue.

Moreover, Applicants request the rejoinder of claim 43-48 as these claims include all of the elements of allowable claim 33.

Application No.: 10/506,408

If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated to expedite the prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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